



The Changing Context of ATM R&D in Europe

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FAA Centers of Excellence



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The wonder of Technology!





Presentation outline

- Political landscape
- Today's business model for ATM
- Single European Sky (SES) - a new regulatory framework
- SESAME - to compliment SES - an implementation programme





The Political Landscape

- Compared to the usual behavior of the EU member states vis-à-vis the EU budget : "I want my money back"
- Compared to the classical way of using the TENs funding for national infrastructure
- Compared to the tendency vis-à-vis the FP projects : to "take the money and run"

GALILEO is the first genuine Pan European infrastructure

A single European ATC system will be the second one





Political Issues

- Who should pay for an infrastructure : the users or the tax payers ?
- Today the airspace users are paying 100% through "users' charges" but there are tax exemptions on kerosene. Will it change? Tax exemption is linked to environmental issues, changing the charging regime is under consideration. and one must not forget the worldwide context.
- Therefore funding even partially, of the air transport infrastructure with community budget is adding one element of debate especially since the funding timeframe is 2007 onwards.
- As for GALILEO, is a Public Private Partnership feasible?
- As for GALILEO, there is a power game between the Council, the Parliament, the European Commission, and an intergovernmental organization (for GALILEO it was ESA, for ATC it is EUROCONTROL)





Today's Business Model

- The Air Navigation Service Providers (ANSPs) have been "developing" (not "procuring") and planning their systems independently of each others.
- System development has never been clearly stated in EUROCONTROL mandate. The members states have prevented the Agency being more active and the Agency had limited success.
- Despite some horizontal integration of the ATC supply industry, it has not led to products.
- The ATM supply industry is backed up by the electronic defence business subsidised by tax payer money.

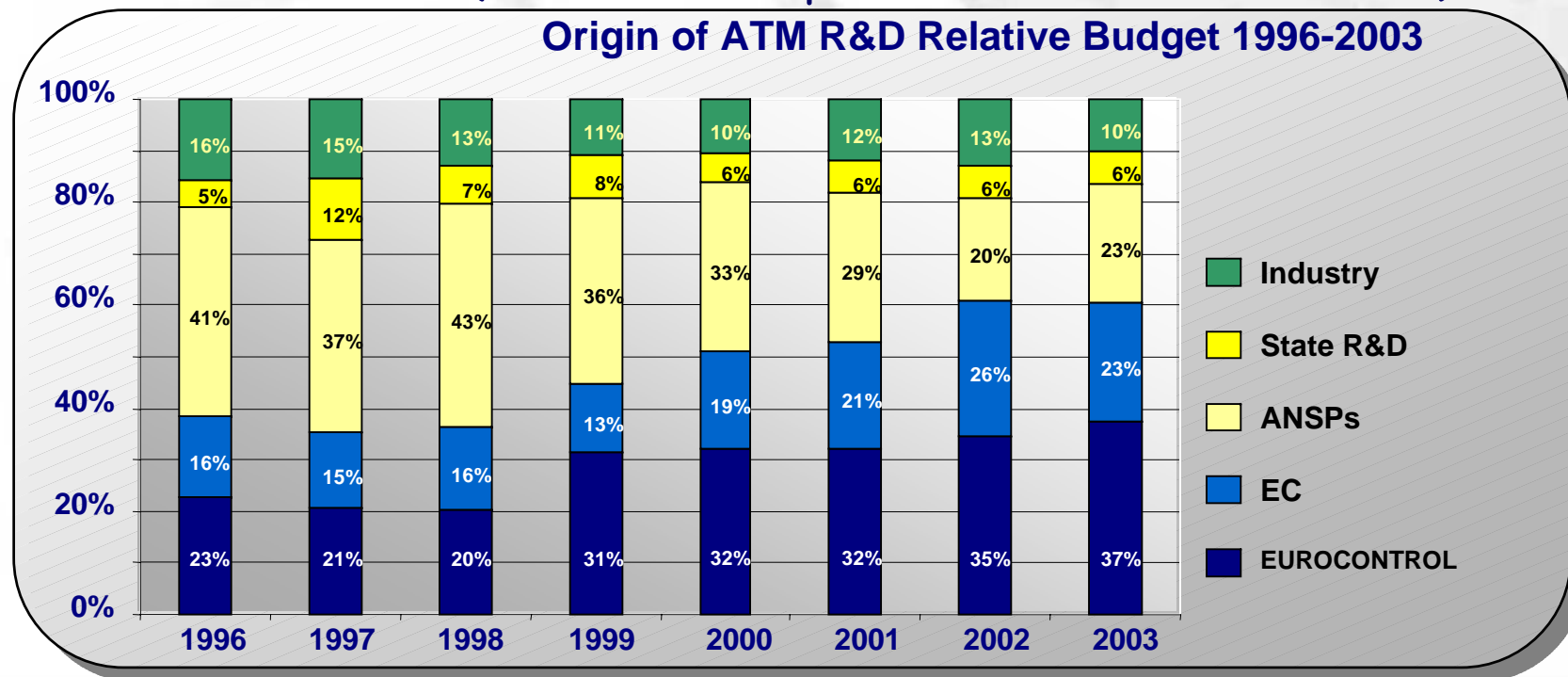


Funding of European Research

Because of the corporatisation of ANSPs and pressure on ATC costs the trend has been diminution of national R&D budgets paid by users' charges totally offset by EC/FP budget increase

Currently, European R&D in ATM = 200 M€/year :

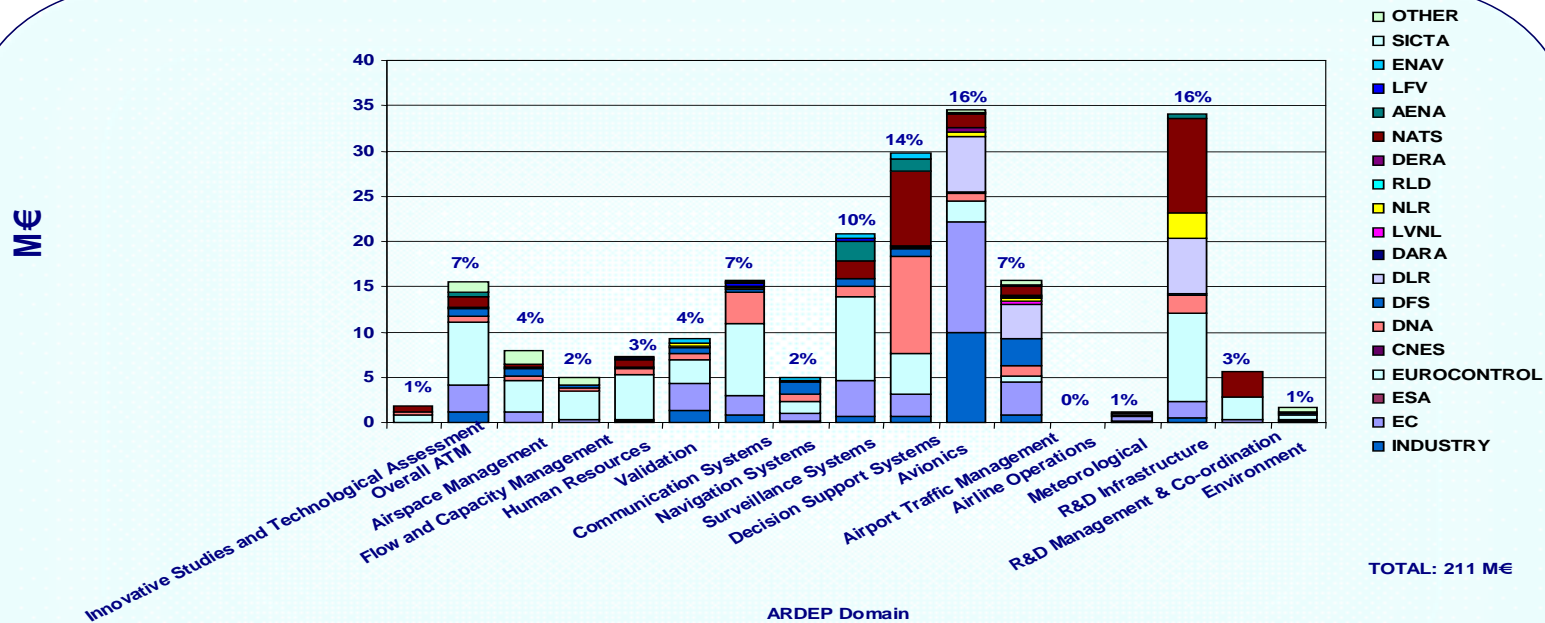
- 70 % European Commission + EUROCONTROL + Industry
- 30 % Others (national ATS providers and R&D Centres)



Today's Fragmentation

ATC R&D has been fragmented with unrealistic implementation timeframes which rarely materialized...and with little innovation

ATM R&D Budget 2000



[Source: ARDEP 2000 database - <http://www.eurocontrol.int/ardep>]





The Single European Sky

- Riding on the wave of the delays during the Kosovo crisis and having in mind the telecoms scheme, the CEC has tried to "deregulate" ATC,
- But in the meantime 11/sept/2001, Linate and Überlingen accidents have reminded all of us that safety cannot be taken for granted,
- As for the liberalization of air transport it will take a while before we can actually see consequences that maybe nobody actually foresees.



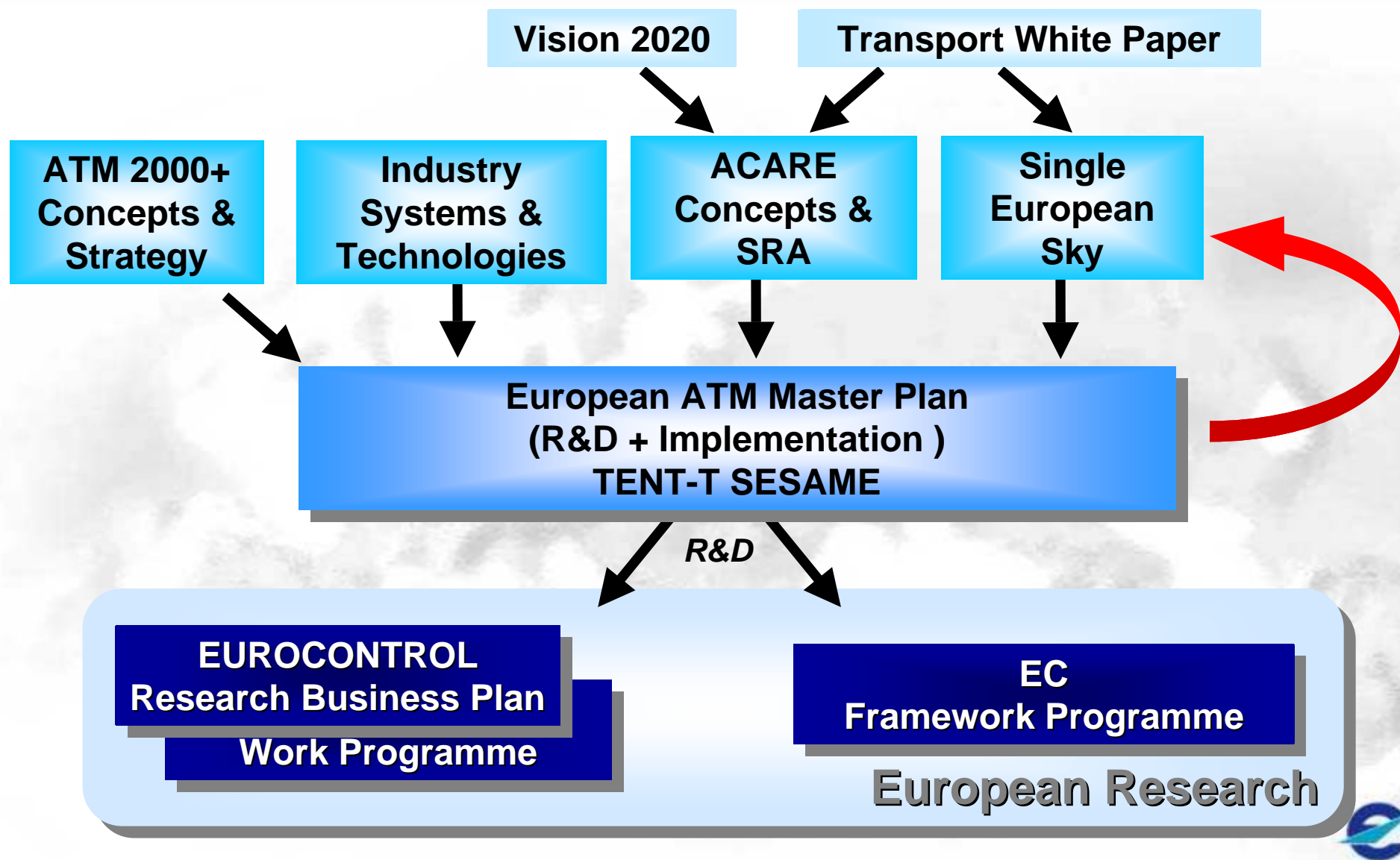


The SES : the Success Story

- It has shed light on a domain which was closed : ATC, and research itself (ACARE : the Advisory Council for Aeronautics Research in Europe) has moved from Aeronautics to Air transport System which ATC is part of,
- It will lead to an overall quality process to make ATC more professional (for example the Air Traffic Controllers license),
- It led to the Research/Development/Implementation of a single European ATC system : SESAME.



New landscape : SESAME





SESAME Structure

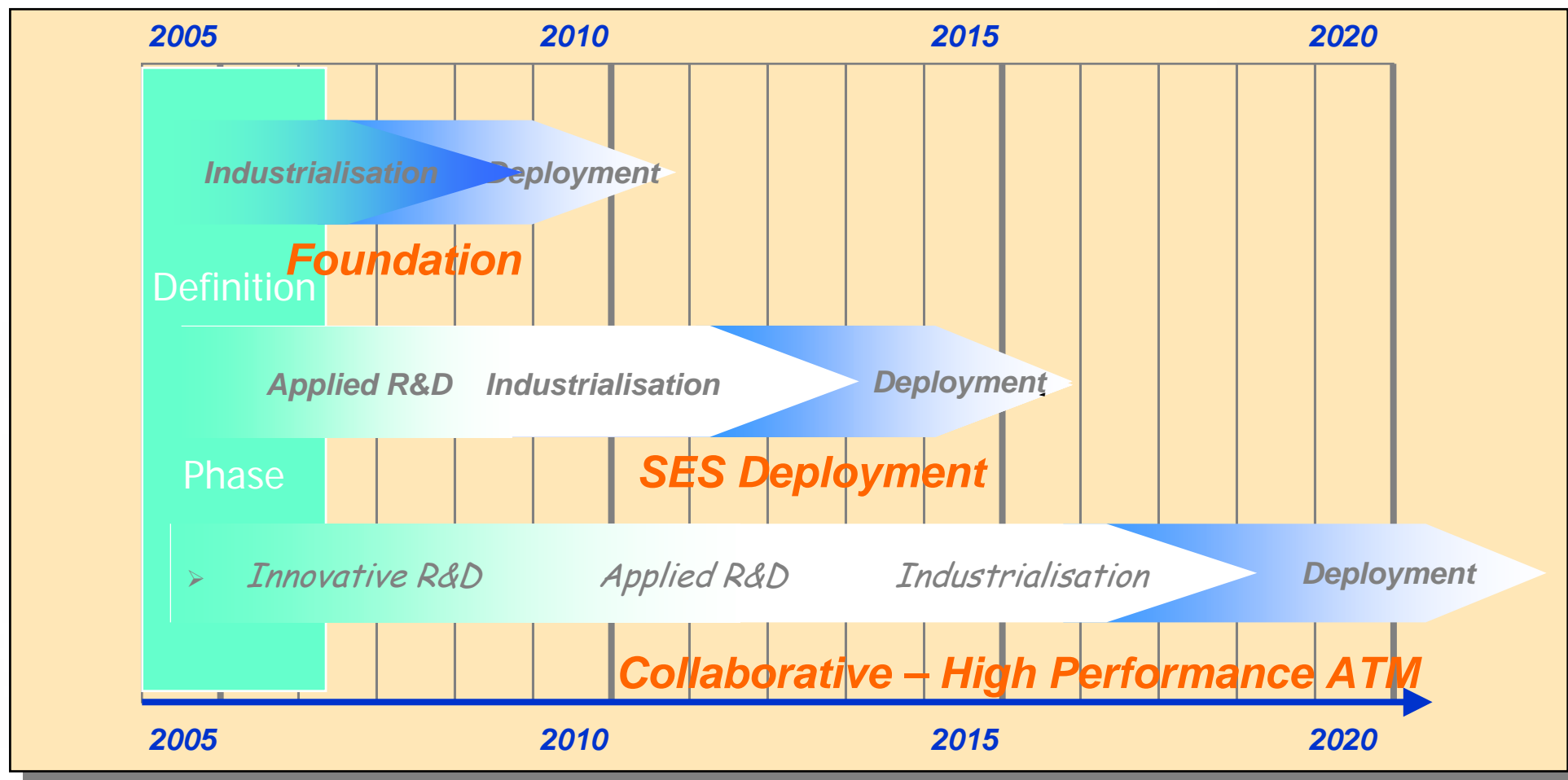
2 main phases:

- Definition phase
 - ➔ European ATM Master Plan
 - ➔ Initial Work Programme 2007-12
- Implementation Phase
 - ➔ Phased development and deployment





Different Timeframes



Building upon an evolving institutional & regulatory framework



European Project, Global Implications



but also

ICAO
FAA
etc.

and 





A European ATM Master Plan

- Converging analyses & initiatives from Industry, EC & EUROCONTROL
- Needs:
 - ➔ Turn off the fragmented approach
 - ➔ Accelerate European ATM evolution & respond to Air Transport challenges
 - ➔ Synchronise & integrate plans from research to operations
 - ➔ Synchronise airborne and ground deployments

- SESAME
- EC initiative to support Single European Sky (SES) technical/operational implementation, in addition to the regulatory framework
- 2 Phases:
 - ➔ Definition of a European ATM Master Plan (→ mid-2007), geared to, & followed by...
 - ➔ Implementation (2007-20)
- ONE, Common Master Plan
 - ➔ ATM industry, operators & users, civil & military, **together** in defining, **committing** to, and **carrying out** the plan
 - ➔ Based on future requirements & current plans
 - ➔ Agreed change steps
- Actions & means to make change happen





Definition Phase: Key Objectives

- Define European air transport system performance requirements up to 2020 and beyond. Considering the deployment of some of the major elements of the ATM system which are likely to append beyond this timeframe and which could have a major impact on the ATM system, timeframe consideration shall not be strictly limited to 2020 (e.g. 4D-RNAV might be introduced beyond 2020 and could distort the final picture if not considered in the global picture),
- Identify globally interoperable and harmonized ATM solutions to meet the performance requirements,
- Produce the detailed Research and Technology and validation work programme, including planning, costs and priorities, as required by the different identified ATM solutions,
- Establish a detailed and phased implementation and deployment plan, including costs and priorities,
- Propose the legislative, financial and regulatory framework required for successful deployment, including possible incentives schemes and funding models.

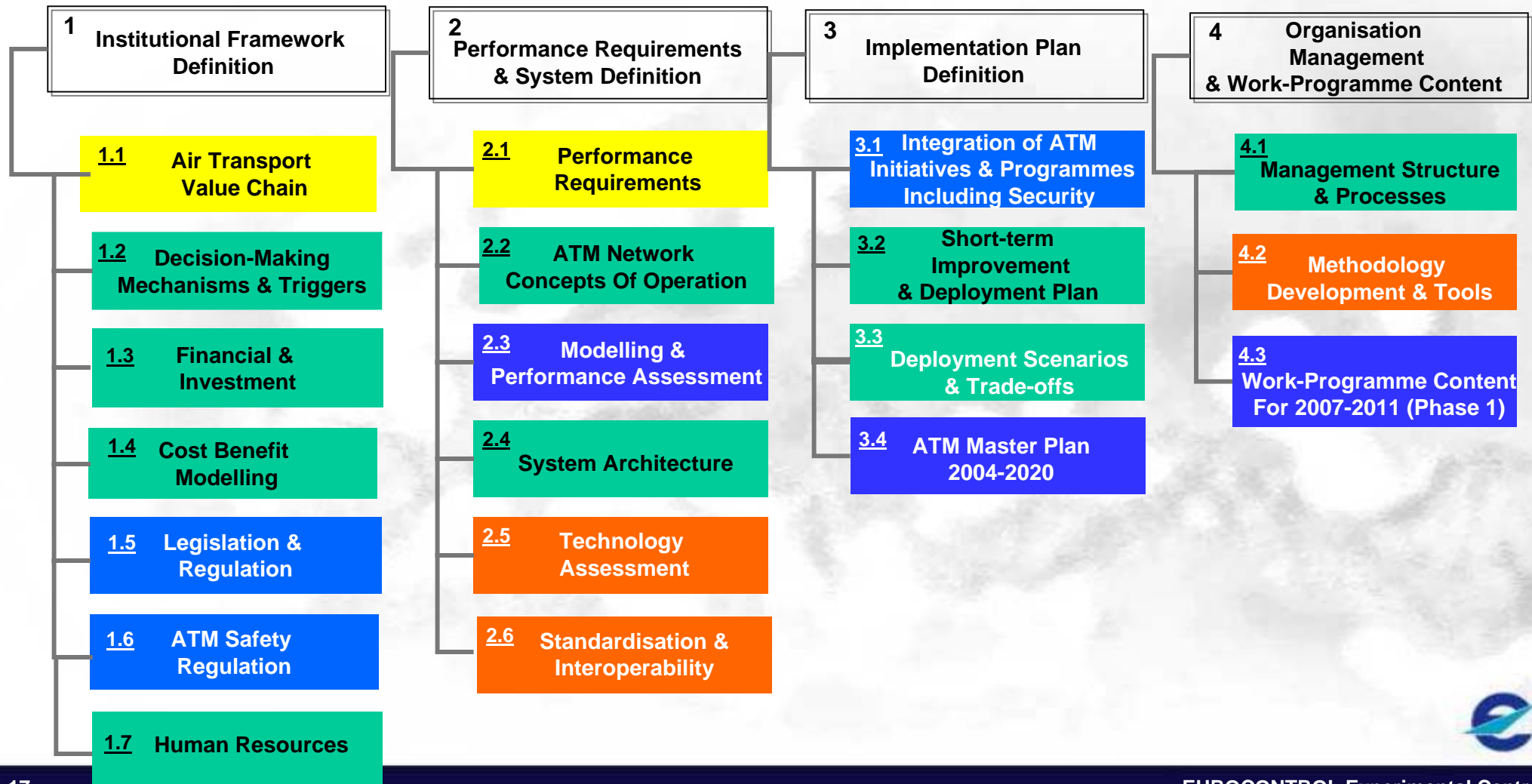


SESAME Definition Phase

 USER

 ANSP

 IND

 EUROCONTROL




Integration of ATC Research

- EC and EUROCONTROL have the duty and the means to integrate ATM Research in Europe
- A Joint Program Board (JPB) has been created to coordinate the EUROCONTROL Research Work Programme and the European Commission Framework Programs on this basis
- Centers of excellence in national ATM R&D centres have to be fostered
- ARDEP will stay as the Observatory function which comprises a repository of R&D projects, and a repository of validation data, allowing full exploitation of existing knowledge and its progressive enrichment.





Call for Tender process

- Issue of call for Tenders issue: 2nd half of January 2005
- Tender submission deadline: 10 weeks after issuance of call for tenders
- Contract start date: ~ July 05

